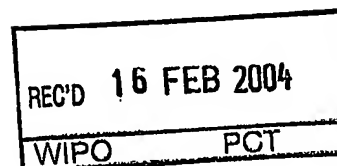




PCT/AU03/01708

Patent Office
Canberra



I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2002953485 for a patent by KEREN JORGENSEN as filed on 20 December 2002.

I further certify that the above application is now proceeding in the name of CRIMSAFE SECURITY SYSTEMS PTY LTD pursuant to the provisions of Section 113 of the Patents Act 1990.



WITNESS my hand this
Fourteenth day of January 2004

A handwritten signature in cursive script that reads "J. Billingsley".

JULIE BILLINGSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES

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5 **PROVISIONAL PATENT APPLICATION**

10

Applicant: Kerew Jorgenson

15

Address:

61 St. Vincent Place, Albert Park, Victoria 3206

Address for Service

20

PO Box 275, Albert Park, Victoria 3206

Title:

Locking System for Secondary Doors of Mobile Homes

25

Inventor:

J Russell Watts

The following statement is a full description of this invention, including the best method of performing it known to me:-

30

IP Australia

20 DEC 2002

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Summary of the Invention:

According to the invention there is a **locking system 1** for a **secondary door 2** supported adjacent a **vehicular opening 3** in a vehicle, said door being defined in part by an **interior side 4** and an **exterior side 5** corresponding to the interior and an exterior of the vehicle, said door including an **opening 6** whereby to provide passage for hands whereby to enable a person on the exterior side to operate a locking means in the interior, said door including a **wing 7** supported adjacent the opening that is displaceable to a closed position in which it occupies the opening,

said locking system including a **secondary engaging member 8** that is displaceable to an engaging position in which it is partly within a portion of the wing and partly within a portion of the door whereby to restrain the wing relative to the door,

said locking system including a **primary engaging member 9** that is displaceable to an engaging position in which it is partly within a portion of the wing and partly within a member mounted on the vehicular opening whereby to restrain the wing relative to the vehicle,

said locking system further including a **cylinder 10** that is key operable from the exterior of the vehicle to restrain the primary and/or secondary engaging member in its respective engaging position.

In a form of the invention, the secondary engaging member is operably connected to the cylinder and to an interior hand operable **secondary lever 11**. Alternatively, the secondary engaging member is operably connected to a key operable cylinder that is operable from the interior.

In a form of the invention, the cylinder has a key operable **exterior barrel 12** that is operably connected with free movement to a **first cam 13** having a radially protruding **cam arm 14**.

In a form of the invention there is an opposed **secondary barrel 15** that is operably connected to the first cam, said secondary cam having a **shaft portion 16** that is connected to the secondary lever. In an alternative form the cylinder comprises a double cylinder wherein there are opposed key operable barrels (one replacing the secondary barrel) operably connected with free movement to the first cam.

In a form of the invention, the wing comprises a **wing frame 17** that includes a lock-supporting vertical member comprising a hollow **second extrusion 18**.

In a form an **inner end 19** of the cylinder protrudes into the first extrusion and the cam is within the extrusion.

In a form of the invention, the secondary engaging member comprises a vertically elongated member 20 that is supported within the second extrusion and that is operably connected to the first cam, said secondary engaging member having a leading end 21 that has passage through an aperture 22 in the wing to have passage through an aperture 23 in the door whereby to restrain the wing relative to the door.

In a form of the invention, the secondary engaging member includes a drive recess 24 in its side disposed towards the cam and in a form the arm of the first cam is disposable within the drive recess to displace the secondary engaging member and to restrain the secondary engaging member against displacement. In a form of the invention the drive recess is defined in-part by upper 25 and a lower 26 angled exit shoulders that separately cooperate with an extreme face 27 of the first cam arm to restrain the secondary engaging member in the disengaged and engaged configurations respectively whereby to resist displacement from either of these positions by means other than displacement of the first cam.

In a form of the invention the cylinder is supported by a cylinder casing 28 that is restrained against the wing by screws 29 that have passage through the wing

In a form of the invention, the primary engaging member 9 is operably connected to an interior hand operable primary lever 30 that is operable from the interior and by a person on the exterior by after passing his hand through the opening.

In a form of the invention, the door comprises a door frame 31 that includes a lock-supporting vertical member comprising a hollow first extrusion 32 and in a form an inner end 33 of a drive arm 34 protrudes into the first extrusion through an aperture 35.

In a form of the invention, the primary engaging member comprises a vertically elongated member 36 that is supported within the first extrusion and that is operably connected to the drive arm, said primary engaging member having protruding engaging portions 37 that have passage through elongated apertures 38 in the edge of the door to have passage into slotted apertures 39 in catch plates 40 supported by the vehicular opening whereby to restrain the door relative to the vehicle.

In a form of the invention, the primary engaging member includes a primary drive recess 41 in its side disposed towards the drive arm and in a form the drive arm is disposable within the primary drive recess to displace the primary engaging member and to restrain the primary engaging member against displacement. In a

form of the invention the primary drive recess is defined in-part by upper 42 and a lower 43 angled exit shoulders that separately cooperate with an extreme face 44 of the drive arm to restrain the primary engaging member in the disengaged and engaged configurations respectively whereby to resist displacement from either of these positions by means other than displacement of the drive arm. In a form, the drive recess is located within a separate member 45 attached to the elongated engaging member.

In a form the drive arm comprises part of a drive member 46 supported by at pivotal axis disposed on the edge 47 of the door adjacent the wing opening and connected to an angled return 48 comprising the primary lever. In a form the pivotal axis comprises a cylindrical stud 48 attached to a support plate 49.

In a form the protruding engaging portions comprise headed studs 50 and the catch plates comprise u shaped members 51 having slotted apertures 52 that extend to the top of the member to be open ended to receive the shanks 53 of the studs whereby to enable the heads 54 to located behind the side walls 55 of the slots.

In a form the wing is biased towards the closed position by a spring 56 and additionally includes a latching tongue 57 that protrudes through an aperture 58 in the side of the door to engage a strike plate 59 mounted to the vehicular opening, said tongue preferably having an angled leading end 60 to facilitate latching wherein the latch tongue and wing are displaced by the strike plate as the door is closed.

In a form the wing comprises a sliding door 61

In a form the vehicle comprises a mobile home.

In a form the vehicle comprises a caravan.

In a form the secondary door comprises a security door

In a form the secondary door comprises a screen door

In a form the secondary lever comprises a knob 62

In a form the secondary lever comprises a lever

In a form the primary lever comprises a knob

In a form the primary lever comprises a lever 63

According to the invention, there is a locking system substantially as described herein with reference to and as illustrated in the accompanying drawings.

Description of the Drawings

Embodiments of the present invention will now be described by way of example only with reference to the accompanying drawings in which:

5 Figure 1 is an isometric view from the interior showing the door, wing and hand operable portions of the locking system,

Figure 2 is an isometric view from the exterior showing the door, wing and cylinder of the locking system,

10 Figure 3 is an exploded isometric view of the cylinder, cam and secondary lever,

Figure 4 is a cross-section of the wing in a plane parallel the face of the wing showing a disengaged engaging member

Figure 5 is a cross-section of the wing in a plane parallel the face of the wing showing an engaged engaging member,

15 Figure 6 is an isometric view of the interior of the wing and door showing a disengaged engaging member,

Figure 7 is an isometric view of the interior of the wing and door showing an engaged engaging member,

20 Figure 8 is a partial cross-section through the door and vehicular opening in a plane parallel the ground showing the additional latching tongue,

Figure 9 is an isometric view of the interior of the wing and door showing an additional latching tongue.

Description of the preferred embodiment

25 According to the invention there is a **locking system 1** for a **secondary door 2** supported adjacent a **vehicular opening 3** in a vehicle, said door being defined in part by an **interior side 4** and an **exterior side 5** corresponding to the interior and an exterior of the vehicle, said door including an **opening 6** whereby to provide passage for hands whereby to enable a person on the exterior side to operate a locking
30 means in the interior, said door including a **wing 7** supported adjacent the opening that is displaceable to a closed position in which it occupies the opening,

said locking system including a **secondary engaging member 8** that is displaceable to an engaging position in which it is partly within a portion of the wing and partly within a portion of the door whereby to restrain the wing relative to the
35 door,

said locking system including a **primary engaging member 9** that is displaceable to an engaging position in which it is partly within a portion of the wing

and partly within a member mounted on the vehicular opening whereby to restrain the wing relative to the vehicle.

said locking system further including a **cylinder 10** that is key operable from the exterior of the vehicle to restrain the primary and/or secondary engaging member in its respective engaging position.

In a form of the invention, the secondary engaging member is operably connected to the cylinder and to an interior hand operable **secondary lever 11**. Alternatively, the secondary engaging member is operably connected to a key operable cylinder that is operable from the interior.

In a form of the invention, the cylinder has a key operable **exterior barrel 12** that is operably connected with free movement to a **first cam 13** having a radially protruding **cam arm 14**.

In a form of the invention there is an opposed **secondary barrel 15** that is operably connected to the first cam, said secondary cam having a **shaft portion 16** that is connected to the secondary lever. In an alternative form the cylinder comprises a double cylinder wherein there are opposed key operable barrels (one replacing the secondary barrel) operably connected with free movement to the first cam.

In a form of the invention, the wing comprises a **wing frame 17** that includes a lock-supporting vertical member comprising a hollow **second extrusion 18**.

In a form an **inner end 19** of the cylinder protrudes into the first extrusion and the cam is within the extrusion.

In a form of the invention, the secondary engaging member comprises a vertically **elongated member 20** that is supported within the second extrusion and that is operably connected to the first cam, said secondary engaging member having a **leading end 21** that has passage through an **aperture 22** in the wing to have passage through an **aperture 23** in the door whereby to restrain the wing relative to the door.

In a form of the invention, the secondary engaging member includes a **drive recess 24** in its side disposed towards the cam and in a form the arm of the first cam is disposable within the drive recess to displace the secondary engaging member and to restrain the secondary engaging member against displacement. In a form of the invention the drive recess is defined in-part by **upper 25** and a **lower 26** angled **exit shoulders** that separately cooperate with an **extreme face 27** of the first cam arm to restrain the secondary engaging member in the disengaged and engaged configurations respectively whereby to resist displacement from either of these positions by means other than displacement of the first cam.

In a form of the invention the cylinder is supported by a cylinder casing 28 that is restrained against the wing by screws 29 that have passage through the wing

5 In a form of the invention, the primary engaging member 9 is operably connected to an interior hand operable primary lever 30 that is operable from the interior and by a person on the exterior by after passing his hand through the opening.

10 In a form of the invention, the door comprises a door frame 31 that includes a lock supporting vertical member comprising a hollow first extrusion 32 and in a form an inner end 33 of a drive arm 34 protrudes into the first extrusion through an aperture 35.

15 In a form of the invention, the primary engaging member comprises a vertically elongated member 36 that is supported within the first extrusion and that is operably connected to the drive arm, said primary engaging member having protruding engaging portions 37 that have passage through elongated apertures 38 in the edge of the door to have passage into slotted apertures 39 in catch plates 40 supported by the vehicular opening whereby to restrain the door relative to the vehicle.

20 In a form of the invention, the primary engaging member includes a primary drive recess 41 in its side disposed towards the drive arm and in a form the drive arm is disposable within the primary drive recess to displace the primary engaging member and to restrain the primary engaging member against displacement. In a form of the invention the primary drive recess is defined in-part by upper 42 and a lower 43 angled exit shoulders that separately cooperate with an extreme face 44
25 of the drive arm to restrain the primary engaging member in the disengaged and engaged configurations respectively whereby to resist displacement from either of these positions by means other than displacement of the drive arm. In a form, the drive recess is located within a separate member 45 attached to the elongated engaging member.

30 In a form the drive arm comprises part of a drive member 46 supported by at pivotal axis disposed on the edge 47 of the door adjacent the wing opening and connected to an angled return 48 comprising the primary lever. In a form the pivotal axis comprises a cylindrical stud 48A attached to a support plate 49.

35 In a form the protruding engaging portions comprise headed studs 50 and the catch plates comprise u shaped members 51 having slotted apertures 52 that extend to the top of the member to be open ended to receive the shanks 53 of the

studs whereby to enable the heads 54 to be located behind the side walls 55 of the slots.

5 In a form the wing is biased towards the closed position by a spring 56 and additionally includes a latching tongue 57 that protrudes through an aperture 58 in the side of the door to engage a strike plate 59 mounted to the vehicular opening, said tongue preferably having an angled leading end 60 to facilitate latching wherein the latch tongue and wing are displaced by the strike plate 60A as the door is closed.

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In a form the vehicle comprises a mobile home.

In a form the vehicle comprises a caravan.

In a form the secondary door comprises a security door

In a form the secondary door comprises a screen door

15 In a form the secondary lever comprises a knob 62

In a form the secondary lever comprises a lever

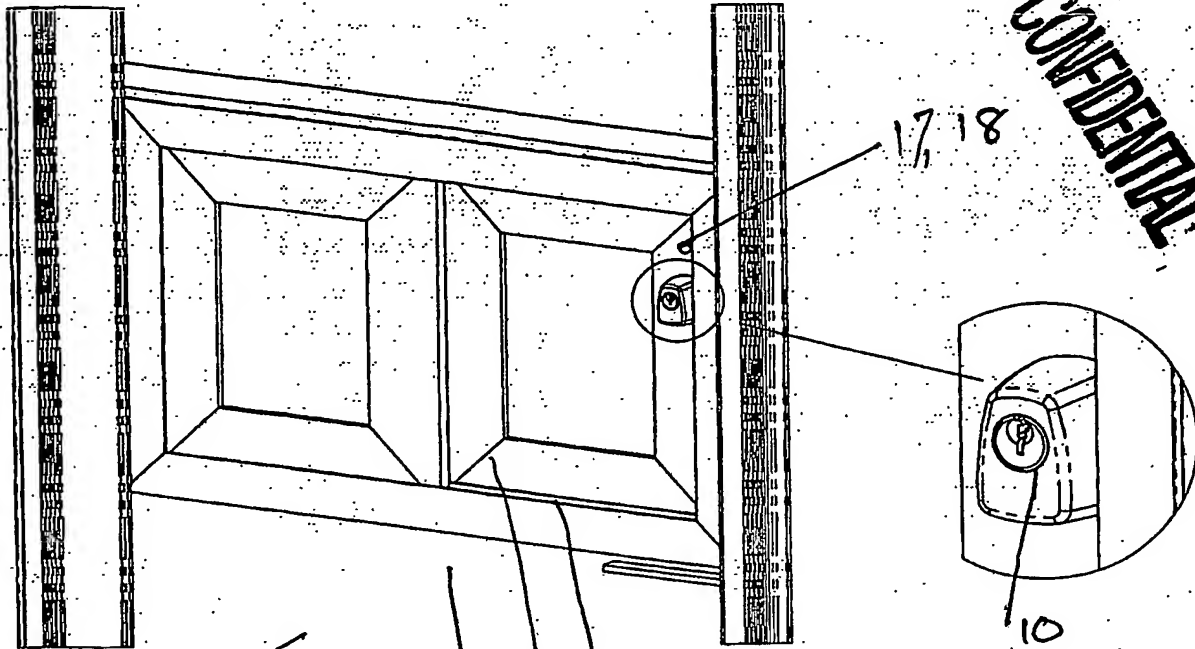
In a form the primary lever comprises a knob

20 In a form the primary lever comprises a lever 63

Throughout this specification and claims which follow, unless the context requires otherwise, the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

25 Throughout this specification and claims which follow, unless the context requires otherwise, the positional prepositions such as rear, forward are used to assist in description of the preferred embodiments and have in general no absolute significance.

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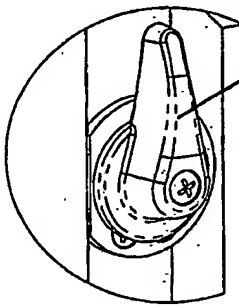
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Fig 2

Exterior



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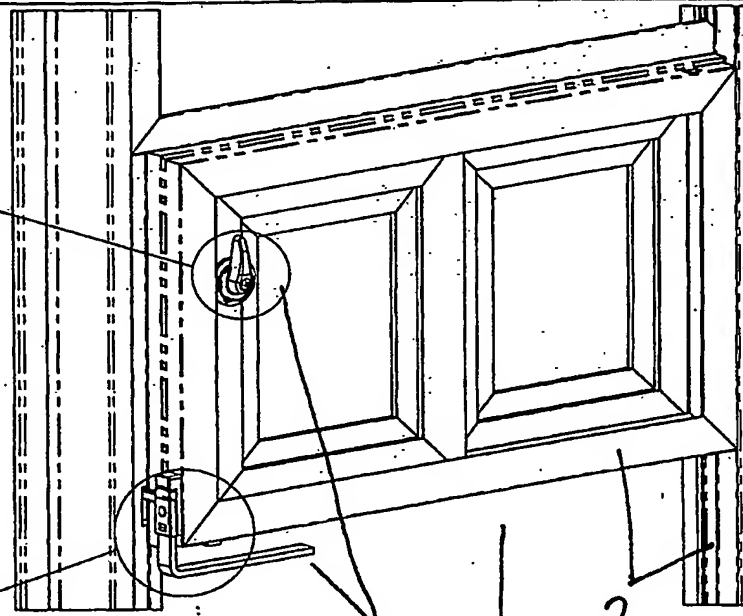
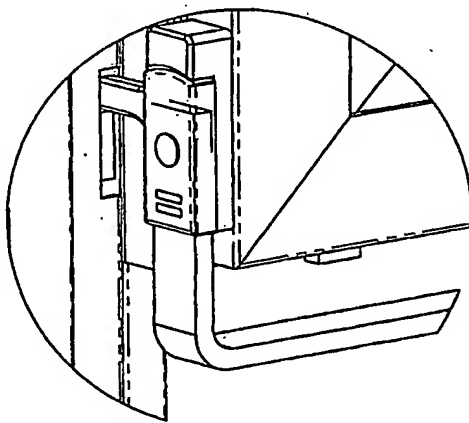


Fig 1

Interior

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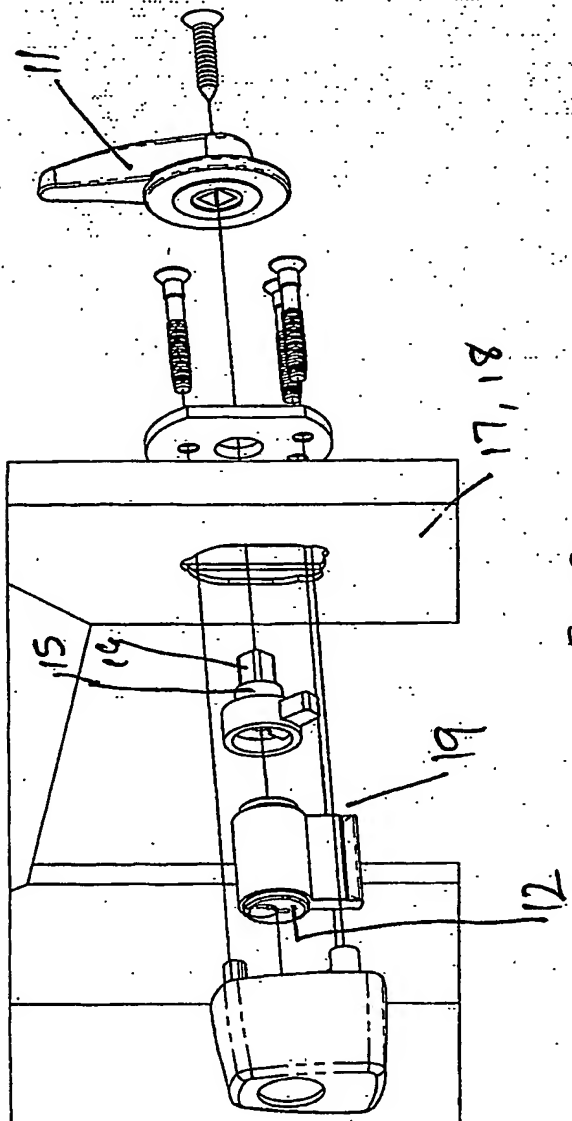
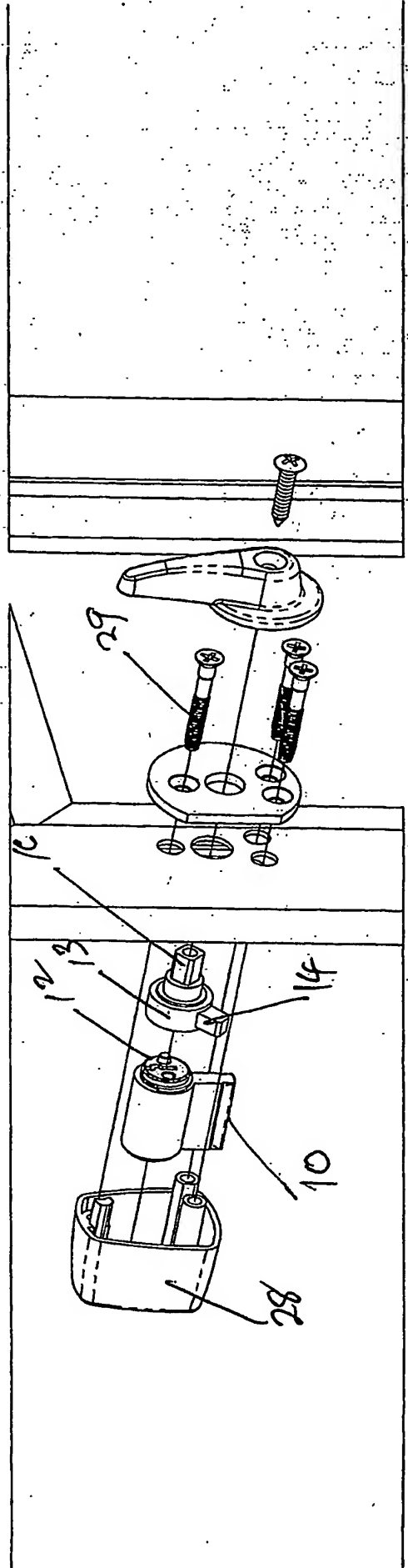
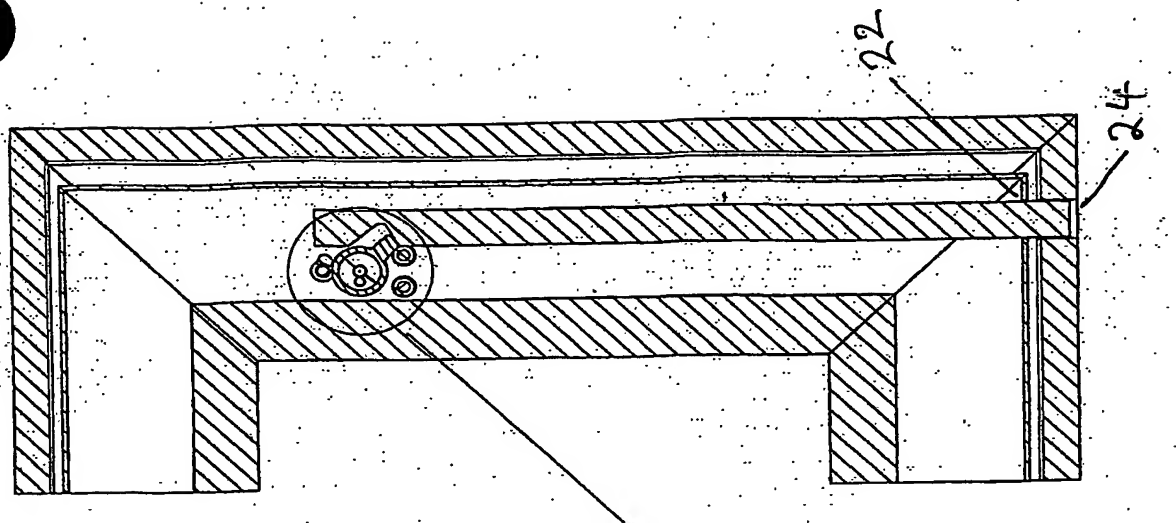


Fig 3





Locked

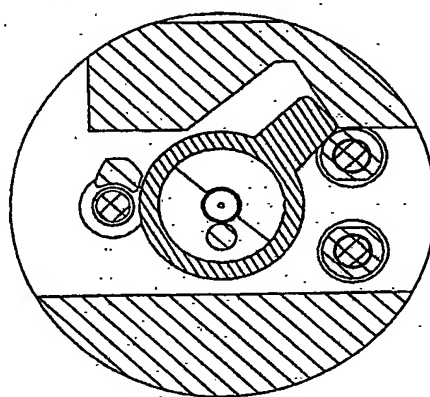
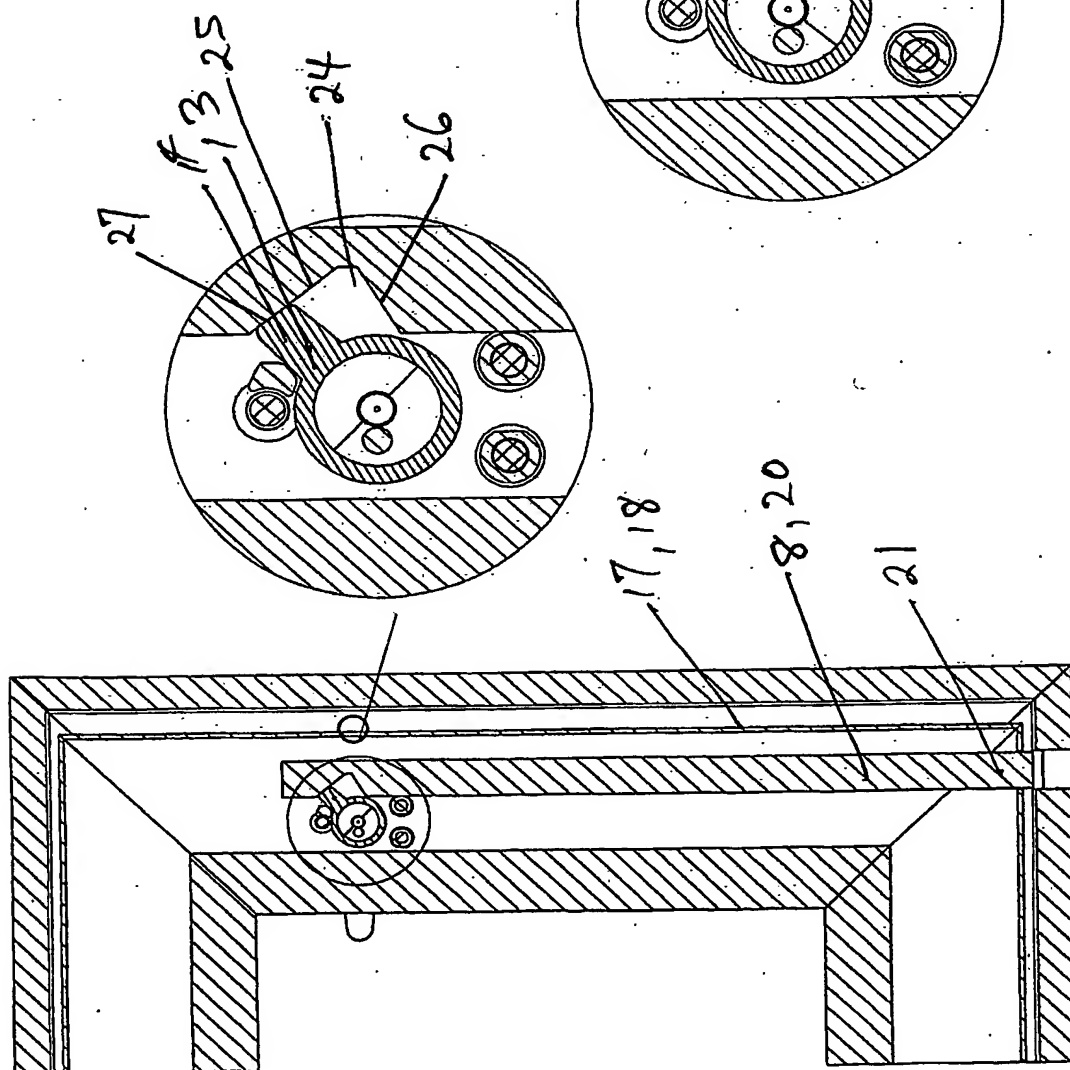


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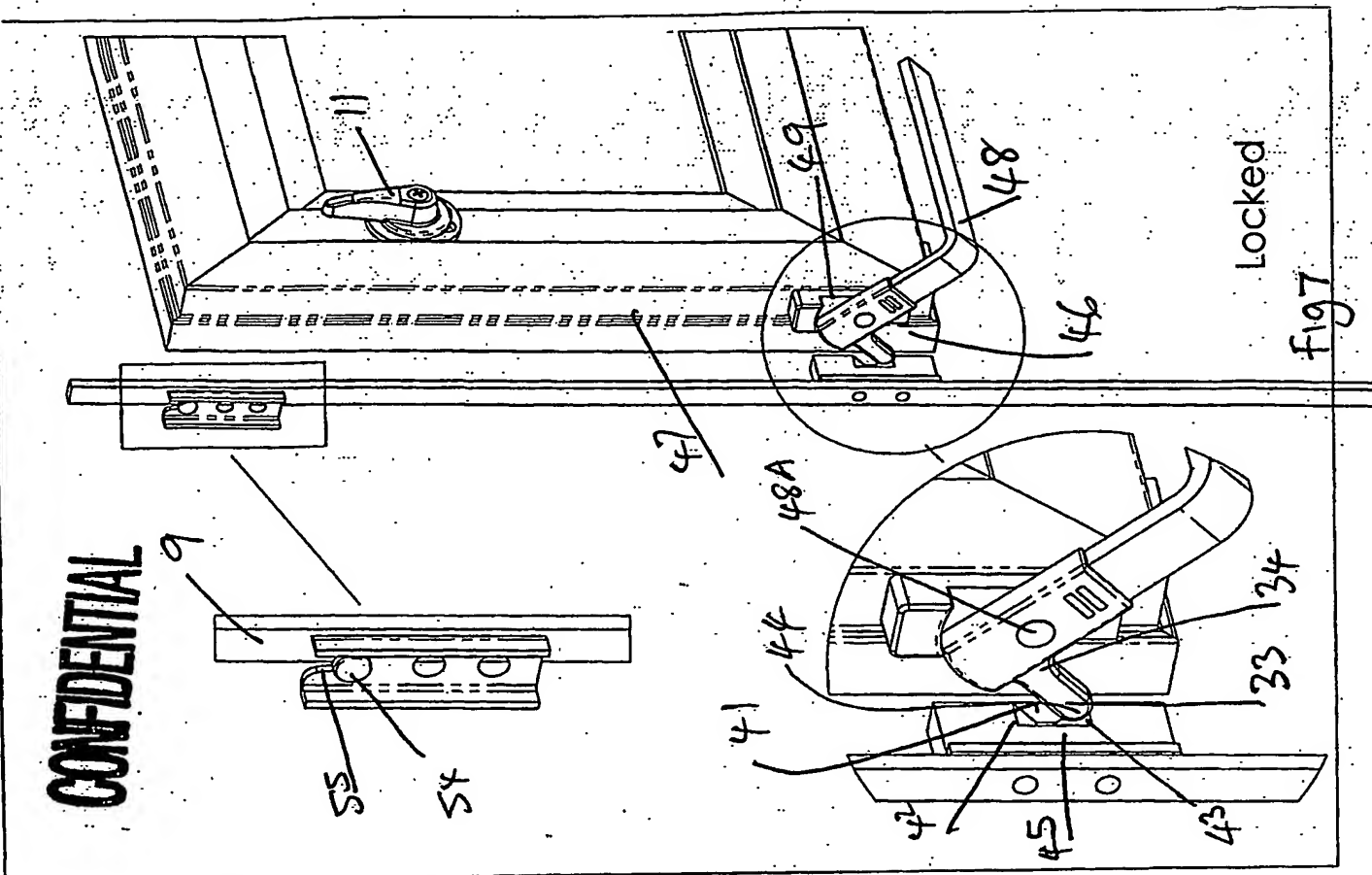


Unlocked

Fig 4

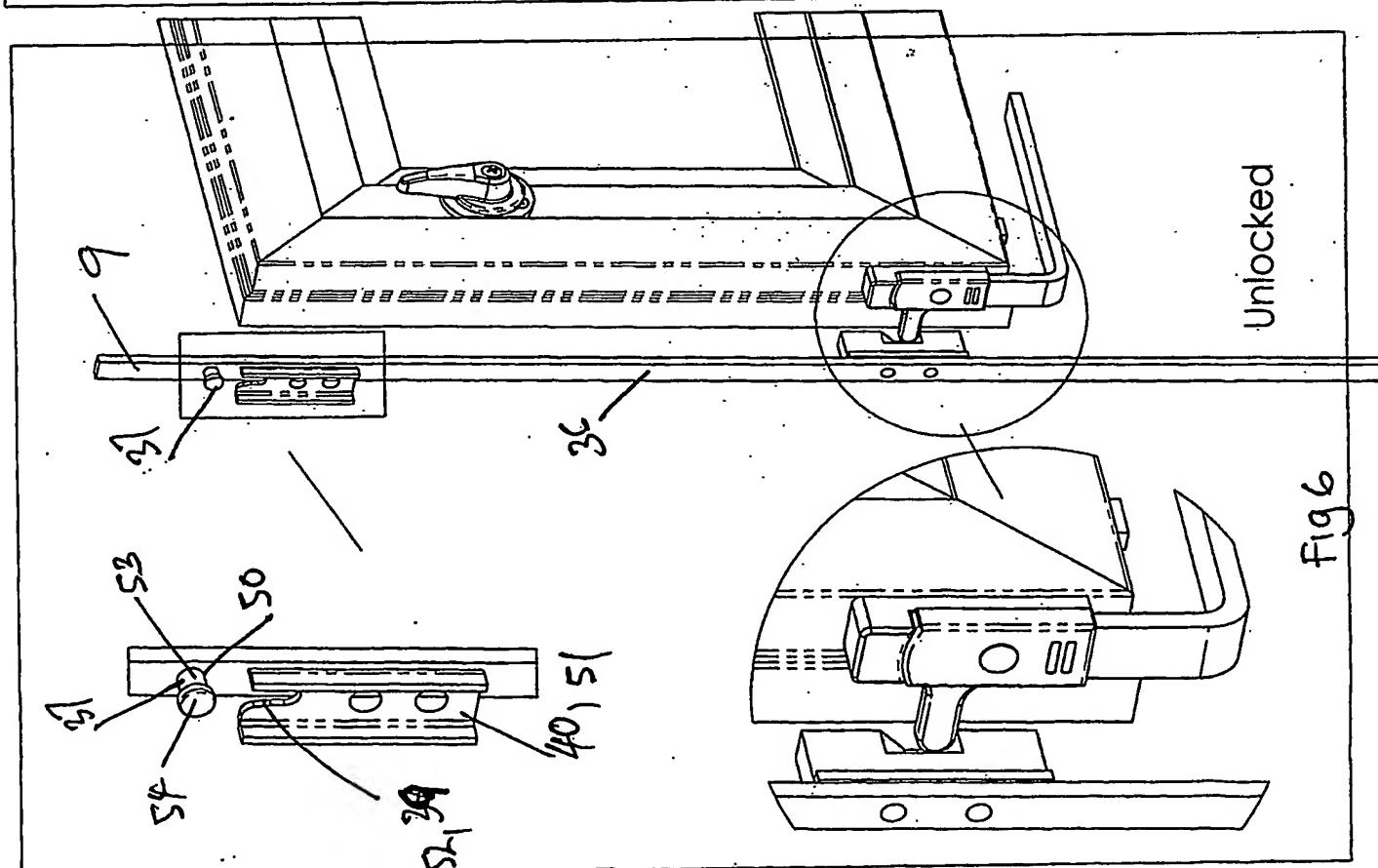
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Locked

Fig 7



Unlocked

Fig 6

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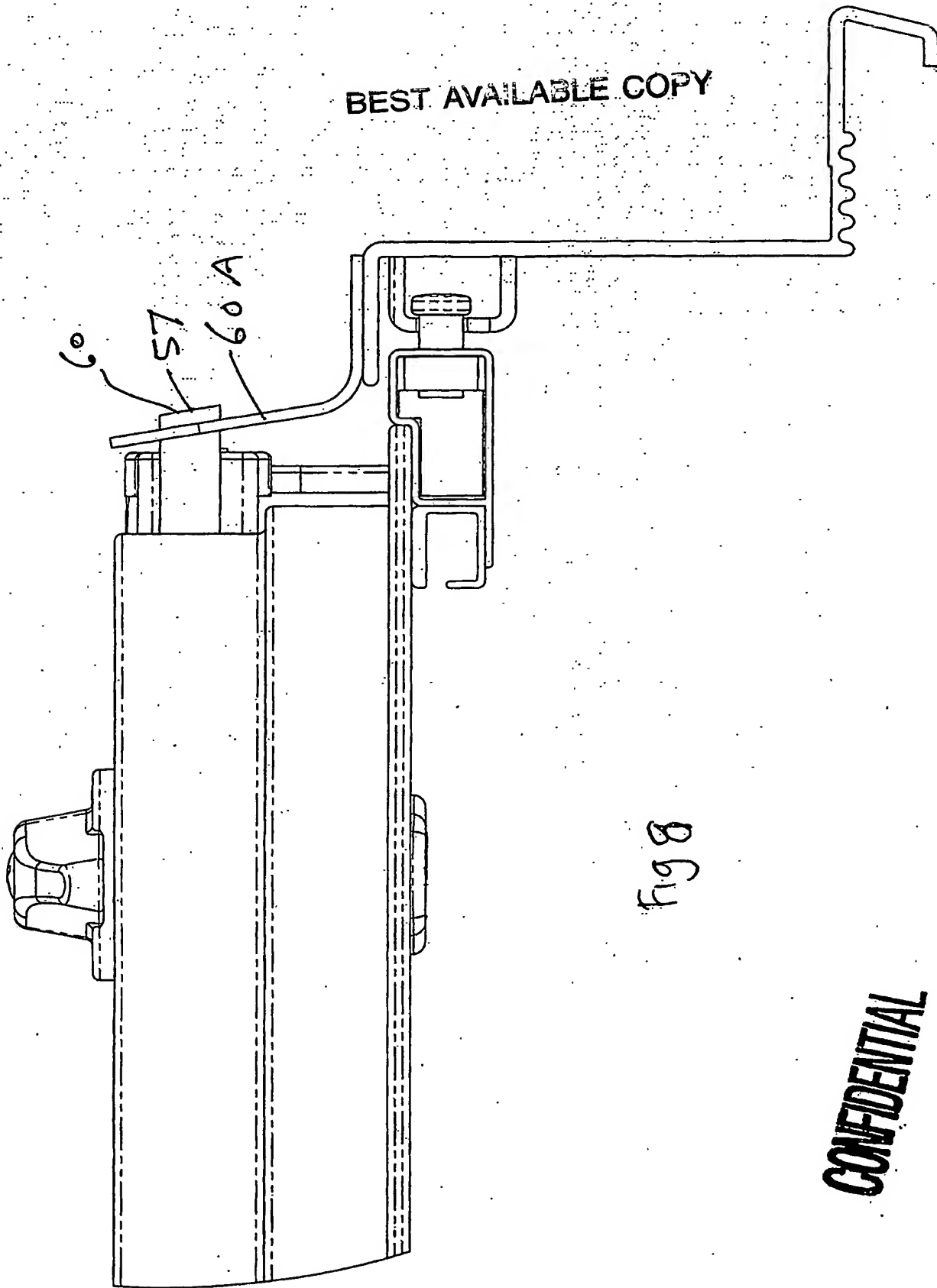
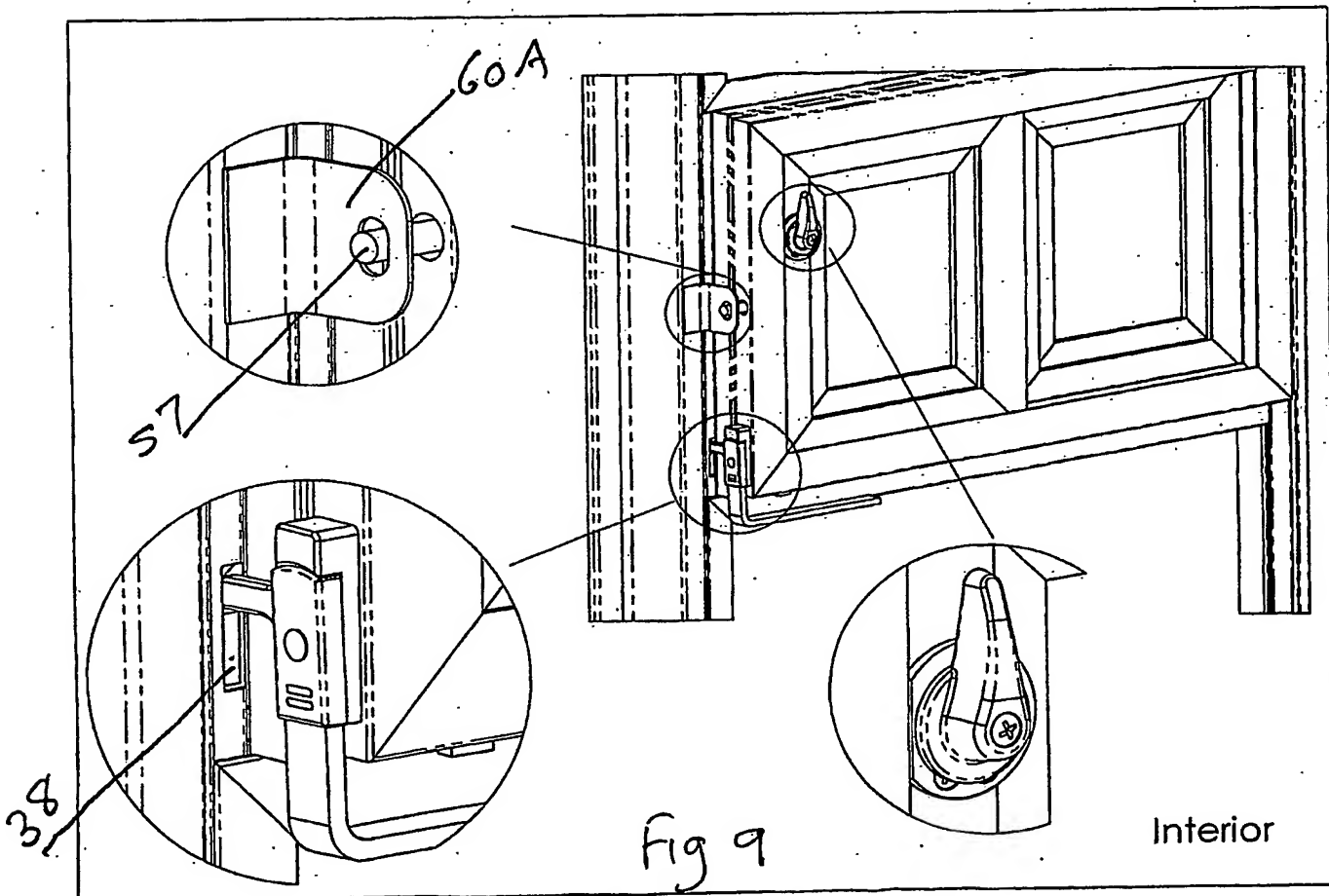
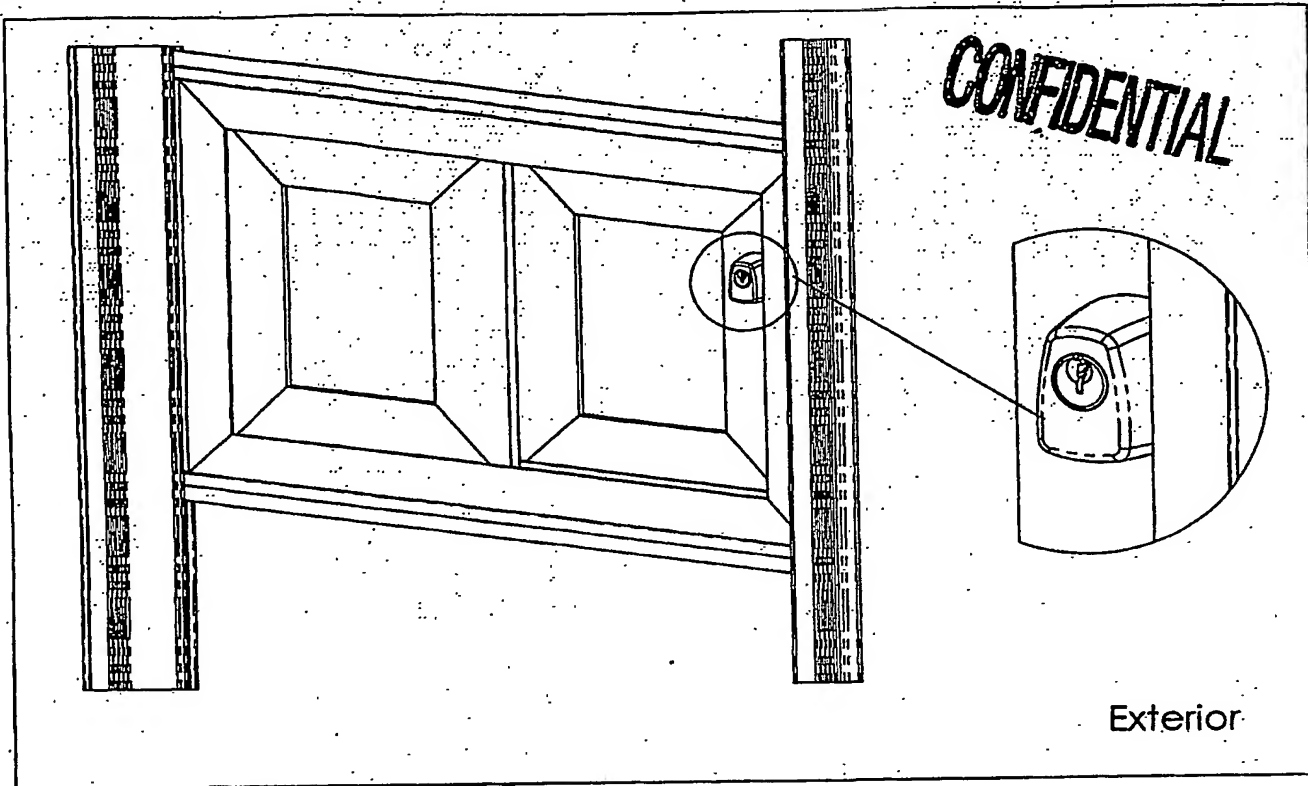


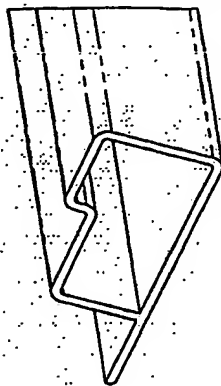
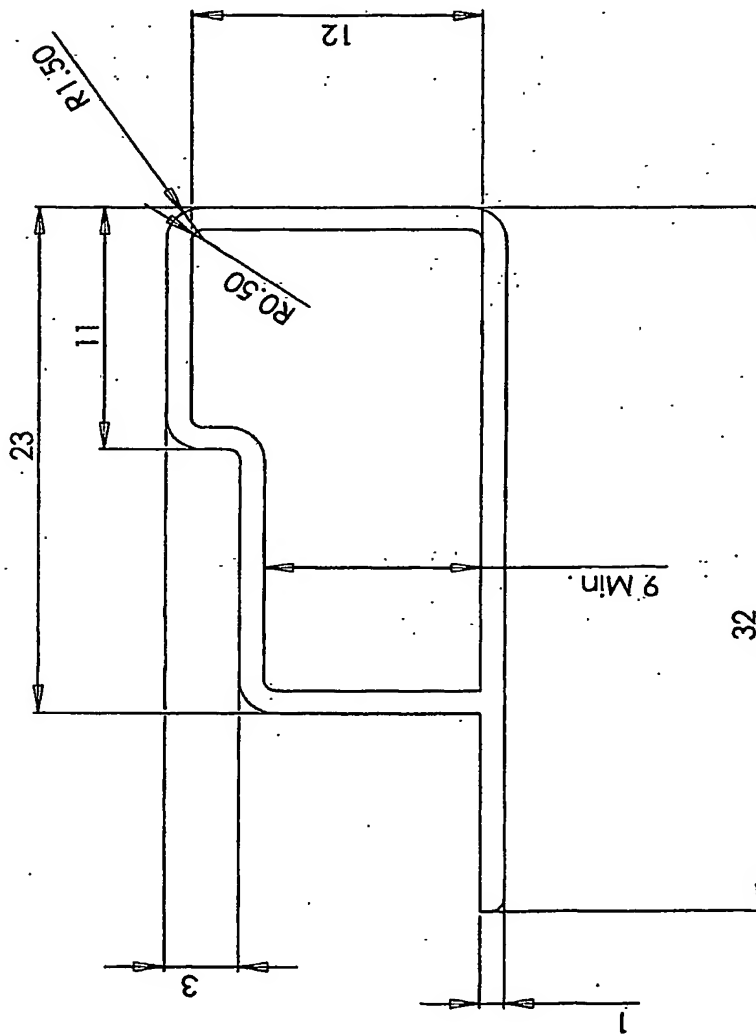
Fig 8

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SPECIAL NOTES

Permission must be sought before chamfering (breaking) any edges

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Third angle projection

Dimensions in millimeters

Linear tolerance + 0.05mm

Angular tolerance $\pm 1.0^\circ$:

Flatness tolerance $\div 0.1$ per 10.0mm

Revision details available by request

Do not scale from drawing

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Hardness: n/a

Scale: NTS

Drawn: David

Checked: n/a

File name: n/a

Description: n/a

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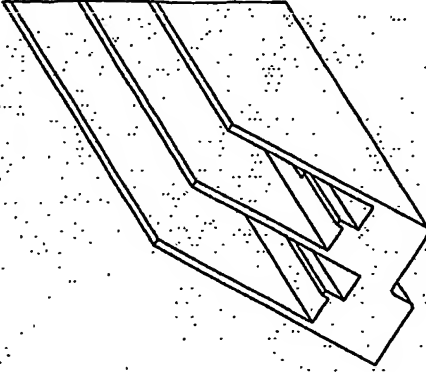
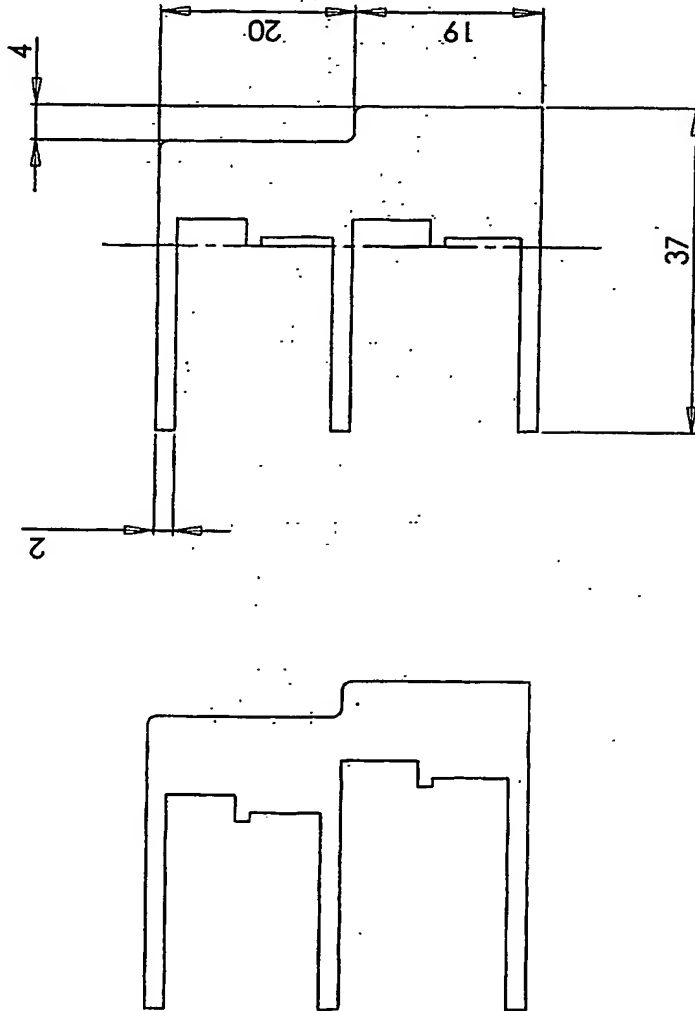
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Linear tolerance $\pm 0.05\text{mm}$

Angular tolerance $\pm 1.0^\circ$

Flatness tolerance ± 0.1 per 10.0mm

Revision details available by request

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Material: n/a

Hardness: n/a

Scale: NTS

CAD: NTS

Drawn: David Greenbury

Checked: n/a

File name: n/a

Description: n/a

DRWG #: N/A

REV: 1.1

PROD #: Slide Runner Extrusion

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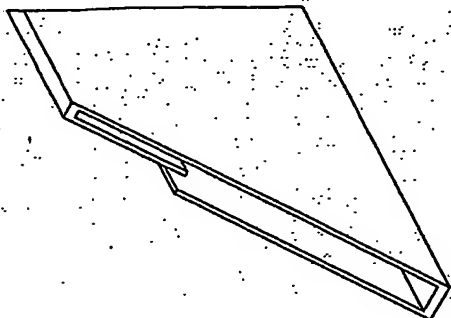
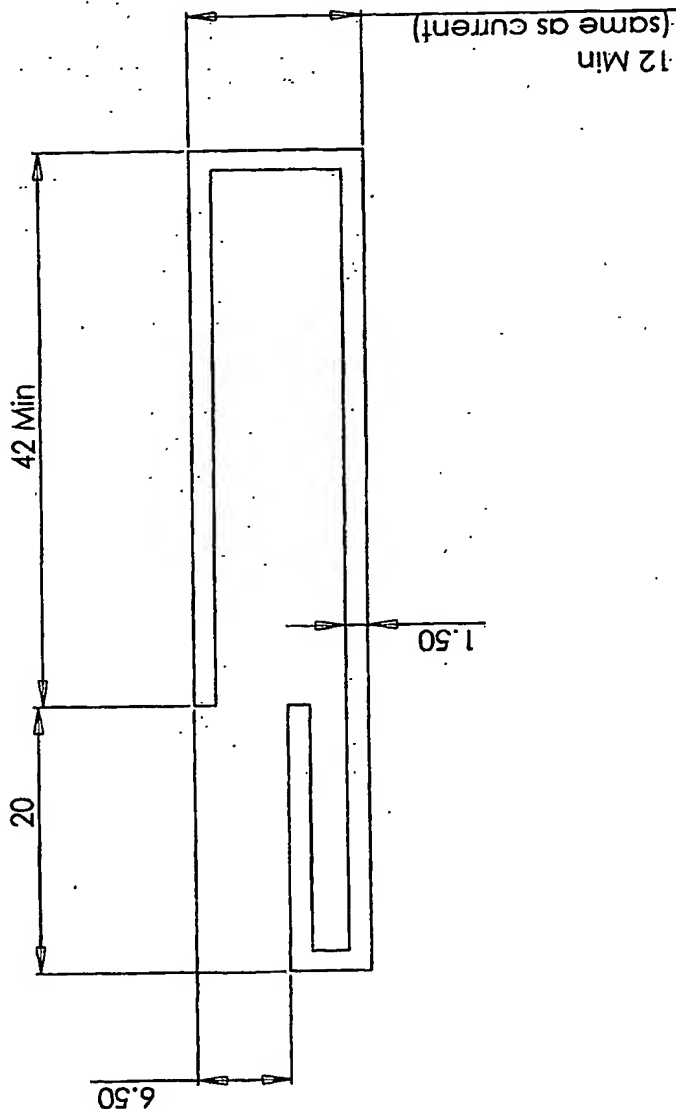
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Do not scale from drawing

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Hardness: n/a

Scale: NTS

Drawn: David Greenbury

Checked: n/a

File name: n/a

Description: n/a

DRWG #: N/A

REV: 1.1

PROD #: Slide Extrusion

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